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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,014	08/04/2005	Akira Tsujimoto	HOK-0255	2048
	7590 07/11/2007 MAN & GRAUER PLLO		EXAMINER	
LION BUILDING	•	MATOCHIK, THOMAS L		
	OTH STREET N.W., SUITE 501 IINGTON, DC 20036		ART UNIT	PAPER NUMBER
	·	1709		
		•	<u>.</u>	
·			MAIL DATE	DELIVERY MODE
			07/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)				
	10/522,014	TSUJIMOTO ET AL.				
Office Action Summary	Examiner	Art Unit				
	Thomas Matochik	1709				
The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply						
A SHORTENED STATUTORY PERIOD FOR REPLY WHICHEVER IS LONGER, FROM THE MAILING DA  Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication.  If NO period for reply is specified above, the maximum statutory period w  Failure to reply within the set or extended period for reply will, by statute, Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).	ATE OF THIS COMMUNI 36(a). In no event, however, may a will apply and will expire SIX (6) MON 4, cause the application to become A	CATION. reply be timely filed  YTHS from the mailing date of this communication. BANDONED (35 U.S.C. § 133).				
Status						
1) Responsive to communication(s) filed on 1/21/	Responsive to communication(s) filed on <u>1/21/2005</u> .					
2a) This action is <b>FINAL</b> . 2b) ⊠ This	☐ This action is <b>FINAL</b> . 2b) ☐ This action is non-final.					
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is						
closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.						
Disposition of Claims						
4) Claim(s) <u>1-5</u> is/are pending in the application.  4a) Of the above claim(s) is/are withdrawn from consideration.						
· _ ·	5) Claim(s) is/are allowed.					
·	6)⊠ Claim(s) <u>1-5</u> is/are rejected.					
7) Claim(s) is/are objected to. 8) Claim(s) are subject to restriction and/or	r election requirement					
are subject to restriction and/or	r election requirement.					
Application Papers						
9)☐ The specification is objected to by the Examiner.						
10) ☐ The drawing(s) filed on is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.						
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).						
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).						
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.						
Priority under 35 U.S.C. § 119						
12)⊠ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a)⊠ All b)□ Some * c)□ None of:						
1. Certified copies of the priority documents have been received.						
2. Certified copies of the priority documents have been received in Application No						
3. Copies of the certified copies of the priority documents have been received in this National Stage						
application from the International Bureau (PCT Rule 17.2(a)).						
* See the attached detailed Office action for a list of the certified copies not received.						
		·				
•						
Attachment(s)						
1) Notice of References Cited (PTO-892)		Summary (PTO-413)				
<ul> <li>2) Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3) Information Disclosure Statement(s) (PTO/SB/08)</li> <li>Paper No(s)/Mail Date 1/21/2005.</li> </ul>		(s)/Mail Date Informal Patent Application 				

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## **DETAILED ACTION**

## Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Kimura et.al (US 6,228,480).

Regarding claims 1 and 2: Kimura teaches a photocatalyst carrying structure comprising titanium dioxide, a Zr compound, a hydrolyzable silicone resin, a Si containing compound having colloidal silica particles. The calculated ratio of Zr toTiO<sub>2</sub> is 0.0033 to 300 parts per weight (ppw) relative to 1 ppw TiO<sub>2</sub> and the calculated ratio of the silicon compound toTiO<sub>2</sub> is 3 x 10<sup>-5</sup> to 50 parts per weight (ppw) relative to 1 ppw TiO<sub>2</sub> (lines 62-64; col. 5, lines 17-21 and col.8, lines 58-64).

The Si containing compound has colloidal silica particles at 1.3 ppw relative to 1 ppw of the hydrolysable silicone resin (cols. 25 and 26, Example 35). Using Example 35, the coating thicknesses are the same for the adhesive and photocatalytic layers. There is 35%  $SiO_2$  in the adhesive layer and 65% metal oxide gel in the Z-1 photocatalytic layer. Of the 65% composition, 40% is the Si containing compound (col. 4, lines 20-21). The calculation for the  $SiO_2$  ratio is:  $(35/(65 \times 40)) = 1.3$ . Regarding claim 3: Kimura teaches the silicon dioxide particles are <10 nm in size (col. 5, lines 38-41).

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Regarding claim 4: Kimura teaches forming the photocatalyst carrying composition at a

temperature of 150 degrees C or less (col. 6, lines 19-27).

Regarding claim 5: Kimura teaches coated substrates (articles) by heat curing (col.4,

lines 5-12).

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Thomas Matochik whose telephone number is 571-270-

3291. The examiner can normally be reached on Monday-Friday 7:30 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MARK EASHOO, PH.D.

SUPERVISORY PATENT EXAMINER

09/J1/07

TLM